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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,821	02/17/2004	Yi-Shiuan Tsai	250122-1230	3721

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EXAMINER

CRANSON JR, JAMES W

ART UNIT PAPER NUMBER

2875

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/780,821

Applicant(s)

TSAI, YI-SHIUAN

Examiner

James W. Cranson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/17/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 6,582,100 to Hochstein et al.

USPN 6,582,100 to Hochstein et al. discloses a heat dissipation structure comprising a circuit board having a through hole with light emitting diode corresponding thereto comprising heat conducting portion, thermal conductive element and heat dissipating portion that is thermo-conductively connected to the conducting portion.

Regarding claim 1,

A heat dissipation structure (10) comprising a circuit board (12) having a through hole with LED corresponding (figure 2, the through holes are 42, LED is 20) disposed on one side of the circuit board (figure 2) comprising : a heat conducting portion (52,) thermo-conductively connected to the LED ( figure 2) and positioned in the through hole ( figure2); a thermal conductive element (54) disposed between the heat conducting portion (52) and the LED (20); and a heat dissipating portion thermo-conductively connected to the heat conducting portion (10, figure 2).

Regarding claim 2, according to claim 1, Hochstein illustrates in figure 2 that the thermal conductive element (54) contacts the heat conducting portion (52) and LED (20).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,582,100 to Hochstein.

Regarding claim 3, according to claim 2, Hochstein discloses Hochstein discloses the claimed invention except for having thermal conductive element be in the shape of a pad. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the thermal conductive element be in the shape of a pad because it has been held that lacking any critically, changing the form or shape of prior art parts does not make the claimed invention patentable over that prior art ( *In re Dailey*, 149 USPQ 47).

Regarding claim 4, according to claim 2, Hochstein discloses the claimed invention except for having the thermal conductive element comprise a layer of conductive paste . It would have been obvious to one of ordinary skill in the art at the time of the invention to have thermal conductive element comprise a layer of conductive paste because it has been held that lacking any critically, the selection of known material based on its suitability for the intended use does not make the claimed invention patentable over that prior art ( *In re Leshin*, 125 USPQ 416).

Regarding claim 5, according to claim 1, Hochstein discloses the claimed invention except for having heat conducting portion and heat dissipating portion integrally formed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion and heat dissipating portion integrally formed because it has been held that lacking any critically, to make prior art parts integral does not make the claimed invention patentable over that prior art (*In re Larson*, 144 USPQ 347)

Regarding claim 6, according to claim 1, Hochstein discloses the claimed invention except for having heat conducting portion be in the shape of a column. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion be in the shape of a column because it has been held that lacking any critically, changing the form or shape of prior art parts does not make the claimed invention patentable over that prior art ( *In re Dailey*, 149 USPQ 47)

Regarding claim 7, according to claim 1, Hochstein discloses the claimed invention except for having heat conducting portion be in the shape of a plate. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion be in the shape of a plate because it has been held that lacking any critically, changing the form or shape of prior art parts does not make the claimed invention patentable over that prior art ( *In re Dailey*, 149 USPQ 47).

Regarding claim 8, according to claim 1, Hochstein discloses the claimed invention except for having heat conducting portion and the heat dissipation portion made of metal. It would have

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been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion and the heat dissipation portion be made of metal because it has been held that lacking any critically, the selection of known material based on its suitability for the intended use does not make the claimed invention patentable over that prior art ( *In re Leshin*, **125 USPQ 416**).

Regarding claim 9, according to claim 1, Hochstein discloses the claimed invention except for having heat conducting portion and the heat dissipation portion made of engineering plastic . It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion and the heat dissipation portion be made of metal because it has been held that lacking any critically, the selection of known material based on its suitability for the intended use does not make the claimed invention patentable over that prior art ( *In re Leshin*, **125 USPQ 416**).

Claims 10-12 are rejected under 35 U.S.C. 102(b) as being unpatentable over USPN 5,785,418 to Hochstein.

Hochstein discloses in a thermally protected LED array, housing, circuit board, LEDs, heat conducting portions, thermal conductive elements and heat dissipation means

Regarding claim 10,

a housing (10)

a circuit board having a plurality of through holes ( column 6, lines 10-16)

a plurality of LEDs (column 5, lines 10-20)

a plurality of heat conduction portions ( column 6, lines 14-21) connected to LEDs

and disposed in the through holes

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a plurality of thermal conductive elements ( column 6, lines 55-65)  
at least one heat dissipation portion (38) thermo-conductively connected to the heat  
conducting portions and positioned between circuit board and housing (column 5  
lines 21-60)

Regarding claim 11, according to claim 10, Hochstein illustrates in figure 2 that the heat  
dissipation portion (38) contacts the housing.

Regarding claim 12, according to claim 10, Hochstein illustrates in figure 2 that the thermal  
conductive element (58) contacts the heat conducting portion (56) and LED (28).

Claims 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN  
5,785,418 to Hochstein.

Regarding claim 13, according to claim 10, Hochstein discloses the claimed invention except for  
having thermal conductive element be in the shape of a pad. It would have been obvious to one  
of ordinary skill in the art at the time of the invention to have the thermal conductive element be  
in the shape of a pad because it has been held that lacking any critically, changing the form or  
shape of prior art parts does not make the claimed invention patentable over that prior art ( *In re*  
*Dailey*, 149 USPQ 47).

Regarding claim 14, according to claim 10, Hochstein discloses the claimed invention except for  
having the thermal conductive element comprise a layer of conductive paste . It would have been  
obvious to one of ordinary skill in the art at the time of the invention to have thermal conductive  
element comprise a layer of conductive paste because it has been held that lacking any critically,  
the selection of known material based on its suitability for the intended use does not make the  
claimed invention patentable over that prior art ( *In re Leshin*, 125 USPQ 416).

Regarding claim 15, according to claim 10, Hochstein discloses the claimed invention except for having heat conducting portion and heat dissipating portion integrally formed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion and heat dissipating portion integrally formed because it has been held that lacking any critically, to make prior art parts integral does not make the claimed invention patentable over that prior art (*In re Larson*, 144 USPQ 347)

Regarding claim 16, according to claim 10, Hochstein discloses the claimed invention except for having heat conducting portion be in the shape of a column. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion be in the shape of a column because it has been held that lacking any critically, changing the form or shape of prior art parts does not make the claimed invention patentable over that prior art ( *In re Dailey*, 149 USPQ 47)

Regarding claim 17, according to claim 10, Hochstein discloses the claimed invention except for having heat conducting portion be in the shape of a plate. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion be in the shape of a plate because it has been held that lacking any critically, changing the form or shape of prior art parts does not make the claimed invention patentable over that prior art ( *In re Dailey*, 149 USPQ 47).

Regarding claim 18, according to claim 10, Hochstein discloses the claimed invention except for having heat conducting portion and the heat dissipation portion made of metal. It would have



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been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion and the heat dissipation portion be made of metal because it has been held that lacking any critically, the selection of known material based on its suitability for the intended use does not make the claimed invention patentable over that prior art ( *In re Leshin*, 125 USPQ 416).

Regarding claim 19, according to claim 10, Hochstein discloses the claimed invention except for having heat conducting portion and the heat dissipation portion made of engineering plastic . It would have been obvious to one of ordinary skill in the art at the time of the invention to have the heat conducting portion and the heat dissipation portion be made of metal because it has been held that lacking any critically, the selection of known material based on its suitability for the intended use does not make the claimed invention patentable over that prior art ( *In re Leshin*, 125 USPQ 416).

### *Conclusion*

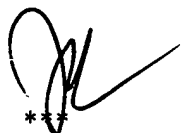
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2004/0264195 to Chang et al, USPN 5,782,555 to Hochstien and USPN 6,787,999 to Stimac et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James W. Cranson whose telephone number is 571-272-2368. The examiner can normally be reached on Mon-Fri 8:30A.M.- 5:00P.M..

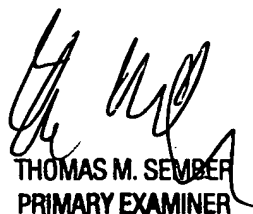
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandy O'Shea can be reached on 571-272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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THOMAS M. SEMBER  
PRIMARY EXAMINER